

Testimony in Support of House Bill 6798 An Act Requiring Labeling Baby Food and Infant Formula Containing Genetically Engineered Organisms.

REF. Committee of Children

Children are our future. Their health and well-being should be one of our paramount concerns. The precautionary principal, the bedrock of environmental law, says that society has to weigh the future impact to the environment of any economic policy and technological innovation and society does in fact assume a certain amount of risk that negatively impacts the environment, as well as, our health. Those are the costs we are willing to make for our standard of living. While I am willing to assume those risks, it is not right to impose those risks on infants, who have no say in the matter.

Epigenetics and genetic engineering are a young science, even the experts are not experts. We have entered a Brave New World, which we are only just discovering and do not know the long term effects of this genetic experimentation. When it comes to genetically engineered (GE) food, we certainly do not know its long term health effects, because the Food and Drug Administration does not require such tests and the chemical companies that make the GE crops do not allow independent research that might test for it. This is not a question of emotion over science, but concern that *there is no science*. I do not believe the precautionary principle would have us risk the health of our children by only requiring minimal trial periods for testing a new product's safety. We do know that the herbicides and pesticides used with GE crops are toxic and to what extent they remain in the food and accumulate in our bodies should be of concern. Also, we do know that infants are much more vulnerable to levels of toxins in the environment and in our food. Until the FDA requires testing of the long term effects of GE baby food on infants, it would be immoral to expose our babies to the whims of science and corporate profits.

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## Materials in Support of Testimony February 24, 2015 HB6798 - An Act Requiring Labeling of Baby Food and Infant Formula Containing Genetically Engineered Organisms

### A. Major food companies support labeling:

Ben and Jerry's to remove all GMOs by end of year with no price increase.  
<http://www.addisonindependent.com/201303vt-house-passes-gmo-labeling-bill>

WalMart asking FDA to require labeling GMO foods.  
[http://grist.org/food/are-walmart-and-big-food-pushing-for-gmo-labeling/?utm\\_campaign=daily&utm\\_medium=email&utm\\_source=newsletter](http://grist.org/food/are-walmart-and-big-food-pushing-for-gmo-labeling/?utm_campaign=daily&utm_medium=email&utm_source=newsletter)

Whole Foods Market has officially committed to labeling GMO products by 2018. <http://media.wholefoodsmarket.com/news/whole-foods-market-commits-to-full-gmo-transparency>

Chipotle becomes the first U. S. restaurant chain to try and rid menu of GMO foods.  
<http://www.nydailynews.com/news/national/chipotle-labels-gmo-menu-items-article-1.1407988>

Ironically, Monsanto supported GMO labeling in Europe, until they saw sales slump there.  
[http://www.naturalnews.com/037222\\_GMO\\_labeling\\_Monsanto\\_Europe.html](http://www.naturalnews.com/037222_GMO_labeling_Monsanto_Europe.html)

### B. American Medical Association: Trust but Verify Genetically Modified Foods

It seems that the AMA is actually split over GMO foods, which is reflected in their public statement about labeling GMO foods. Some members have called for mandatory labeling, while others say there is not enough science to show that such foods pose a risk to human health. "Although there has not yet been shown any proven health risk by foods coming from plants or animals, who's DNA has been tweaked, the AMA still would like to see such foods go through a mandatory pre-market safety approval process." Therefore, "Although the AMA does not support labeling, it does support pre-market safety assessments." However, the FDA does not require any rigorous pre-market testing of the safety of GMO foods.  
<http://www.medpagetoday.com/MeetingCoverage/AMA/33362>  
<http://www.medpagetoday.com/MeetingCoverage/AMA/33338>

<http://www.ncbi.nlm.nih.gov/pubmed/21338670>

### C. Health Risks of GMO foods

For a good general statement see the American Academy of Environmental Medicine. The AAEM states that GMO foods do pose serious health threats and that it is imperative to adopt a precautionary principle and have a moratorium on GMO foods until proven safe.  
<http://www.aaemonline.org/gmopost.html>

A decade-long project to develop genetically modified peas with built-in pest-resistance has been abandoned after tests showed they caused allergic lung damage in mice.  
<http://www.newscientist.com/mobile/article/dn8347-gm-pea-causes-allergic-damage-in-mice.html>

The European Food Safety Authority's Genetically Modified Organisms (GMO) Panel has adopted a scientific opinion to determine the potential for an allergic reaction by genetically modified plants and microorganisms and derived food and feed... It is possible that GM food and feed could contain proteins which may cause food allergies in both people and animals. Because of this, EU legislation requires that the possibility of allergens in GMOs and food and feed derived from GMOs be assessed before these products are placed on the market."  
<http://www.foodsafetynews.com/2010/08/efsa-assesses-allergens-in-gmos/#.UUIGBta-ouV>

GMO crops are often grown with large amounts of herbicide that are quite possibly toxic. Research has found that a specific inert ingredient, POEA, in the Roundup Ready herbicide was more deadly to human embryonic, placental and umbilical cord cells than the herbicide itself. The research team suspects that this popular herbicide might cause pregnancy problems by interfering with hormone production, possibly leading to abnormal fetal development, low birth weights or miscarriages.  
<http://www.scientificamerican.com/article.cfm?id=weed-whacking-herbicide-p>

In 2011, doctors at Sherbrooke University Hospital in Quebec found Bt-toxin in the blood of 93 percent of pregnant women tested, 80 percent of umbilical blood in their babies, and 67 percent of non-pregnant women. This raises the scary possibility that eating Bt corn might, in fact, turn your intestinal flora into a kind of "living pesticide factory", which essentially manufactures Bt-toxin from within your digestive system on a continual basis which, scientists believe that this could reasonably result in gastrointestinal problems, autoimmune diseases, food allergies and

childhood learning disorders.

<http://www.digitaljournal.com/article/326208>

<http://www.ncbi.nlm.nih.gov/pubmed/21338670>

Glyphosate, the active ingredient in Roundup Ready, being more toxic than originally thought.

[http://www.organicconsumers.org/articles/article\\_27101.cfm](http://www.organicconsumers.org/articles/article_27101.cfm)

Roundup Ready pesticide is linked to Parkinson disease.

[http://www.naturalnews.com/037786\\_Roundup\\_pesticides\\_Parkinsons.html](http://www.naturalnews.com/037786_Roundup_pesticides_Parkinsons.html)

Long term toxicity of a Roundup herbicide and a Roundup-tolerant genetically modified maize

<http://www.ncbi.nlm.nih.gov/pubmed/22999595>

Health risks of Bt Toxin based on Seralini study.

<http://www.safelawns.org/blog/2012/02/new-study-genetically-modified-corn-toxic-to-humans/>

D. More studies on adverse effects of GE corn, soy, and potatoes; including classic studies by Pustzai and Seralini:

Ewen S, Pustzai A. Effects of diets containing genetically modified potatoes expressing *Galanthus nivalis* lectin on rat small intestine. *Lancet*. 354:1353-1354. <http://www.ncbi.nlm.nih.gov/pubmed/10533866>

Finamore A, Roselli M, Britti S, et al. Intestinal and peripheral immune response to MON 810 maize ingestion in weaning and old mice. *J Agric. Food Chem*. 2008; 56(23):11533-11539. <http://www.ncbi.nlm.nih.gov/pubmed/19007233>

Kilic A, Aday M. A three generational study with genetically modified Bt corn in rats: biochemical and histopathological investigation. *Food Chem. Toxicol*. 2008; 46(3):1164-1170. <http://www.ncbi.nlm.nih.gov/pubmed/18191319>

Malatesta M, Boraldi F, Annovi G, et al. A long-term study on female mice fed on a genetically modified soybean: effects on liver ageing. *Histochem Cell Biol*. 2008; 130:967-977. <http://www.ncbi.nlm.nih.gov/pubmed/18648843>

Séralini GE, Clair E, Mesnage R, Gress S, Defarge N, Malatesta M, Hennequin D, de Vendômois JS. Long term toxicity of a Roundup herbicide and a Roundup-tolerant genetically modified maize.

Food Chem Toxicol. 2012 Nov;50(11):4221-31. doi:  
10.1016/j.fct.2012.08.005. Epub 2012 Sep 19.  
<http://www.ncbi.nlm.nih.gov/pubmed/22999595>

Velimirov A, Binter C, Zentek J. Biological effects of transgenic maize NK603xMON810 fed in long term reproduction studies in mice. Report- Federal Ministry of Health, Family and Youth. 2008.  
[http://www.biosicherheit.de/pdf/aktuell/zentek\\_studie\\_2008.pdf](http://www.biosicherheit.de/pdf/aktuell/zentek_studie_2008.pdf)

#### E. EPA regulation or lack thereof:

##### Starlink Corn and Related Cases:

Benefits of Bt crops, and biotechnology generally, can be realized only if risks are assessed and managed properly. The case of Starlink corn, a plant modified with a gene that encodes the Bt protein Cry9c, was a severe test of U.S. regulatory agencies. The U.S. Environmental Protection Agency had restricted its use to animal feed due to concern about its allergenicity. However, Starlink corn was later found throughout the human food supply, resulting in food recalls by the Food and Drug Administration and significant disruption of the food supply.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1240687/pdf/ehp0110-000005.pdf>

<http://www.gmwatch.org/gm-firms/11153-bayer-a-history>

<http://www.centerforfoodsafety.org/2011/01/27/usda-decision-on-ge-alfalfa-leaves-door-open-for-contamination-rise-of-superweeds/>

Roundup toxicity and residue in food, Monsanto's request to increase EPA allowable residue on soybeans by a factor of three.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1257636/>

No EPA defined tolerance for BT toxin residue in blood

<http://www.gmwatch.org/latest-listing/1-news-items/13926-syngenta-charged-with-lying-over-cattle-deaths>

Because of weed resistance to such herbicides as Glyphosate, chemical companies have successfully lobbied the FDA to approve use of a more toxic herbicide 2, 4-D.

#### F. The New Genesis: Playing with Fire:

Half the genes in DNA have nothing to do with making proteins; rather they function to turn on and off making of proteins. Scientists are beginning to question whether they can even talk about "genes". We have entered a brave new world of science, what Barry Commoner calls the

"New Genesis" of which we are not in full control. We do not know the full off target effects (OTE) of using messenger RNA to turn on and off genes. The study below is significant because it reveals that some transgenic RNA is not broken down in stomach and can pass through intestinal walls to affect cell function. (See Barry Commoner, "Unraveling the DNA Myth: The Spurious Foundation of Genetic Engineering." Harpers, February 2002.

<http://croker.harperthall.org/Must%20Know/Science/DNAMythCommoner.pdf>)

Chinese researchers found small pieces of rice ribonucleic acid (RNA) in the blood and organs of humans who eat rice. The Nanjing University-based team showed that this genetic material will bind to receptors in human liver cells and influence the uptake of cholesterol from the blood. <http://www.nature.com/cr/journal/v22/n1/full/cr2011158a.html>

<http://www.theatlantic.com/health/archive/2012/01/the-very-real-danger-of-genetically-modified-foods/251051/>

"In the present study, we were surprised to detect exogenous plant miRNAs in the serum and plasma of human and animals. Over half of plant miRNAs detected in serum and plasma are present in MVs. Further *in vitro* and *in vivo* analysis demonstrated for the first time that food-derived exogenous plant MIR168a can pass through the mouse gastrointestinal (GI) track and enter the circulation and various organs especially the liver where it cross-kingdomly regulates mouse LDLRAP1 protein expression and physiological condition."

## G. Environment and Farming

Contrary to often-repeated claims that today's genetically-engineered crops have, and are reducing pesticide use, the spread of glyphosate-resistant weeds in herbicide-resistant weed management systems has brought about substantial increases in the number and volume of herbicides applied.

<http://www.enveurope.com/content/24/1/24>

<http://gmwatch.org/latest-listing/51-2012/14041-new-benbrook-data-blow-away-claims-of-pesticide-reduction-due-to-gm-crops>

Glyphosate destroys soil bacteria & culture requiring the use of fertilizers. .

A thoughtful statement on corporate takeover of agriculture and the final transfer of the collective farming wisdom of the human race into corporate hands.

[http://e360.yale.edu/feature/why\\_i\\_still\\_oppose\\_genetically\\_modified\\_crops/2191/](http://e360.yale.edu/feature/why_i_still_oppose_genetically_modified_crops/2191/)

#### H. Suppression of Research.

This is an important article in *Scientific American* stating that no independent research is being done on GMO foods and recommends the removal of user agreements that prohibit independent testing.

<http://www.scientificamerican.com/article.cfm?id=do-seed-companies-control-gm-crop-research>

Árpád Pusztai is a Hungarian-born biochemist and nutritionist, and world expert on plant lectins, authoring 270 papers and three books on the subject. In 1998 Pusztai publicly announced that the results of his research showed feeding genetically modified potatoes to rats had negative effects on their stomach lining and immune system. His research institute under pressure from the British government suspended him and his contract was not renewed. Pusztai moved back to Hungary. In 2005, he received the Whistleblower Award from the German Section of the International Association of Lawyers against Nuclear Arms (IALANA) and the Federation of German Scientists (VDW). In 2009, Pusztai and his wife received the Stuttgart peace prize (Stuttgarter Friedenspreis).

[http://en.wikipedia.org/wiki/Pusztai\\_affair](http://en.wikipedia.org/wiki/Pusztai_affair)

Harvard-trained, Berkeley professor Tyrone Hayes was contracted by Swiss-based agribusiness company Syngenta to test their herbicide, Atrazine, for any harmful health effects and discovered it detrimentally affected the sexual development of frogs. Syngenta would not allow him to publish his findings and when he did after his contract expired they proceeded to attack him publically in an effort to ruin his reputation.

<http://www.newyorker.com/magazine/2014/02/10/a-valuable-reputation>

Amendment to Testimony in Support of House Bill 6798 An Act Requiring Labeling Baby Food and Infant Formula Containing Genetically Engineered Organisms.

REF. Committee on Children

Dear committee members,

After listening to some of the compelling oral testimony at yesterday's public hearing, I am writing an amendment to my written testimony submitted online. I was particularly moved by Terri Eickel's personal testimony about her own battle with cancer and the cancer of her seven-year-old nephew. I do know that other people who presented yesterday share similar stories about their own illness or that of their loved ones. They have become dissatisfied with the answers they hear from blinkered medical experts and are trying to connect the dots themselves for which they are being castigated as "emotional" and "anti-science". I have come to realize now that the GMO labeling fight is only one battle in a larger war over how much man-made toxins are we willing to tolerate in our environment that ultimately impacts on our health! The precautionary principle I mentioned in my original testimony is the bedrock of environmental law ever since Rachel Carson published her world changing book, "The Silent Spring." However the precautionary principle is a double-edged sword. On the one hand it says "to do no harm," but on the other hand, it allows regulating agencies and courts to weigh cost and benefits to determine how much harm we can risk, since to do no harm would mean to risk nothing and do nothing, bringing human progress to a halt. The question then becomes then not "to do no harm," but how much harm are we willing to risk? But who gets to draw that line and who ends up assuming those risks? It becomes an ethical question and not a scientific or business one. In many cases it is the most vulnerable and powerless members of our society who disproportionately bear the costs. Corporations have had the power to draw that line, for example, in the case of genetically engineered food, by requiring only short trials to test the possible harm of GE foods, which only measures acute effects (you won't drop dead tomorrow) and not long-term chronic effects (your health will be compromised in the long run, maybe fatal.) What we are seeing among the courageous women leading this GE baby food labeling effort is a push back against that line which the corporate world has drawn of how much bodily harm we are willing to tolerate and accept. Environmental law scholar, Douglas Kysar, recently published a book on the precautionary principle ("Regulating from Nowhere" Yale Press) in which he states that we all have a stake and say in where this line is drawn. He ends his book with the words, "Let every life, let every death, speak for itself." At yesterday's public hearing you were privileged to witness some of those voices.

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